DISTRIBUTED INTRAFRAME TRANSMISSION

IN DIGITAL VIDEO COMPRESSION

ABSTRACT OF THE DISCLOSURE

5   The present invention provides a method and apparatus for distributed intraframe transmission. In one embodiment of the present invention, digital images are divided into regions. In this embodiment, an I-frame is not transmitted all at once. Instead, in each transmission, a region of the image is compressed without using interframe compression while the rest of the image is compressed using interframe compression. The region

10   transmitted without interframe compression changes with each transmission. Thus, over the course of several transmissions every region of the image is transmitted without interframe compression. A transmission schedule controls the transmission of I-frame data for an entire image over the course of several frame transmissions. In one embodiment, a digital image is divided into M regions, and one region is transmitted

15   without using interframe compression in each frame. In one embodiment, the M regions are numbered from 0 to M - 1, and a region is selected for transmission without using interframe compression when the region number is equal to MOD (F, M), where F is the frame number. In one embodiment, the regions are non-overlapping rectangular regions. In another embodiment, the regions are strips of pixels. In another embodiment, regions

20   are non-contiguous pixels. In yet another embodiment, regions which will be transmitted without interframe compression comprise sets of pixels which have not been refreshed within M frames and pixels which are selected by a compressibility criteria.

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